



A.D. 1874, 25th April. N^o 1447.

SPECIFICATION

of

HIPPOLYTE GULLERY.

SPLINTS.

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A.D. 1874, 25th APRIL. N° 1447.

Splints.

LETTERS PATENT to Hippolyte Guillery, of Brussels, in the Kingdom of Belguim, Doctor of Medicine, for the Invention of “**IMPROVEMENTS IN SPLINTS FOR SURGICAL PURPOSES.**”

Sealed the 2nd October 1874, and dated the 25th April 1874.

PROVISIONAL SPECIFICATION left by the said Hippolyte Guillery at the Office of the Commissioners of Patents, with his Petition, on the 25th April 1874.

I, HIPPOLYTE GUILLERY, of Brussels in the Kingdom of Belgium
5 Doctor of Medicine, do hereby declare the nature of the said Invention for “**IMPROVEMENTS IN SPLINTS FOR SURGICAL PURPOSES,**” to be as follows:—

My Invention relates to improvements in splints for surgical purposes, such as the setting of fractured bones, and it consists in making the said splints from sheets of zinc stamped so as to take the exact form of that
10 portion of a member or part of the human body to which the said splints are to be applied.

Guillery's Improvements in Splints.

In making splints of zinc according to my Invention I proceed as herein-after described. Supposing that the splints are to be applied to the fractured leg of an ordinary sized man I first have a mould or impression taken in plaster mixed with water of the leg or part of the leg of a well proportioned man of the required size. From this mould I 5 get cast in plaster a model or reproduction of the said leg or part. A surgeon then traces with a pencil upon the model leg thus formed the outline of the splints as he wishes to have them made; one of the said splints may take the inner side and one the outer side of the leg, or one may take the fore side and one the after side, or the said splints may be 10 shaped as the surgeon may deem most advantageous, the corresponding edges of the said splints being traced so as to leave a space of about half an inch between them. The plaster model of the leg is then taken to a foundry where it is moulded and an iron casting made therefrom, which casting serves as the inner die for the stamping or forming of the 15 splints.

Iron castings are also made of the parts of the plaster mould herein-before referred to which correspond with the tracing of the splints made by the surgeon. The latter castings are the counter dies for the stamping or forming of the splints. The inner surface of the said counter dies 20 being concave correspond with the outer surface to be given to the splints, whilst the convex surface of the iron leg or die corresponds with the inner surface of the said splints.

When the said die and counter dies are finished a sheet of zinc rendered suitably ductile by the application of heat is placed between the die and 25 one of the counter dies, and by repeated compression the said zinc sheet is stamped or made to assume the exact impression and shape and dimensions of the dies operating upon it. When one of the splints has been thus stamped or shaped the second splint is similarly operated upon so as to receive the impression and shape of the second counter die and 30 the corresponding part of the iron leg or die.

The space left between the corresponding edges of the splints allows the said splints to be applied to legs of different thickness, and the length of the said splints is such that the same splints may be applied to persons somewhat taller or shorter than the individual whose leg 35 served as a model.

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In applying the said splints to a fractured leg, the bone having been set, the said splints, the inner surface of which may if necessary be covered with a sheet of wadding, are methodically applied to the leg, and are maintained in position by a leather strap or simply by cords.

5 The strength of the said splints is not effected by a hemorrhage or the application to the injured member of any hemostatic or refrigerating liquid. They may be perforated with any suitable number of holes to let out perspiration, blood, pus, or any medicamental liquid. When the member has to be examined or dressed each of the splints is removed
10 successively whilst the member is held by the remaining splint.

The process herein-before described for making splints according to my Invention for a broken leg is applicable also to making splints for broken arms and for fractured bones whatever be the part of the human body where the fracture occurs.

15 **SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said Hippolyte Guillery in the Great Seal Patent Office on the 24th October 1874.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, HIPPOLYTE GUILLERY, of Brussels, in the Kingdom of Belgium, Doctor of Medicine,
20 send greeting:

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-fifth day of April, in the year of our Lord One thousand eight hundred and seventy-four, in the thirty-seventh year of Her reign, did, for Herself, Her heirs and successors,
25 give and grant unto me, the said Hippolyte Guillery, Her special licence that I, the said Hippolyte Guillery, my executors, administrators, and assigns, or such others as I, the said Hippolyte Guillery, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term
30 therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN SPLINTS FOR SURGICAL PURPOSES**," upon the condition (amongst others) that I, the said Hippolyte Guillery, my executors, or administrators, by an

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instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters 5 Patent.

NOW KNOW YE, that I, the said Hippolyte Guillery, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:— 10

The essential feature of my Invention is the manufacture of splints by compression between two surfaces which have been moulded from a limb corresponding in size and dimensions to that for which the splints are required.

In order to make the Invention understood I will suppose it is desired 15 to make zinc splints for the broken leg of a man of medium stature. A moulder takes by means of plaster mixed with water a cast from the leg of a well proportioned man of the height indicated. Into this cast he runs plaster mixed with water, and he thereby obtains the reproduction of the leg which serves as the model. The surgeon marks in pencil on 20 this plaster leg the splints which he wishes to obtain; they will be an inside and an outside splint, or a front and a back splint, according to circumstances. He makes the corresponding edges so that they may be from $\frac{1}{3}^{\text{rd}}$ to $\frac{3}{4}^{\text{th}}$ of an inch apart. The plaster leg is then sent to an iron-founder; he moulds and casts it in iron, and this iron leg will serve as a 25 mandrel or former. Then he casts in iron that part of his mould which corresponds with the marks made by the surgeon, and he thus obtains the hollow mould of the splint. The ironfounder therefore obtains two surfaces, one of them convex which corresponds with the inner surface of the splint, and the other concave which corresponds with the outer 30 surface. These pieces are sent to a zincworker; he takes a sheet of zinc which he renders more ductile by heat; he compresses it between the two concave and convex surfaces and thus obtains a pressed splint, the forms and dimensions of which are exactly those of the model limb. The second splint is made in the same manner, and so on for all the 35 limbs of the human body.

It is evident that these splints will produce as many duplicates or copies as may be desired. Several other substances, felt, leather, and

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gutta percha, for example, may be pressed like the zinc. The zinc splints which appear to me preferable preserve their solidity notwithstanding hemorrhage or the application to the injured limb of hemostatic, cooling, healing, or other liquid. They may be perforated with any number of
5 holes that may be considered suitable to give passage to exhalation, suppuration, or healing liquid.

And having now described the nature of my said Invention, and in what manner the same is to be performed, I declare that I claim, the improved surgical splints manufactured in the manner substantially as
10 herein-before described.

In witness whereof, I, the said Hippolyte Guillery, have hereunto set my hand and seal, this Fifteenth day of October One thousand eight hundred and seventy-four.

H. GUILLERY. (L.S.)

LONDON :

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Printers to the Queen's most Excellent Majesty. 1874.

